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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/644,261	ANSARI ET AL.	
	Examiner	Art Unit	
	Pritham Prabhakher	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 August 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12,14-21 and 23-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12,14-21 and 23-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *01/03/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments, see Pages 2-3, filed 08/08/2007, with respect to the rejection(s) of claim(s) 1-10,23-31 and 32-33 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Foote et al. (US Patent No.: 7015954B1) and further in view of Schofield et al. (US Patent No.: 6097023) with regard to Claims 1-2 and 4-10. Claims 1,3 and 23-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tian et al. (US Patent No.: 6806514B1) and further in view of Foote et al. (US Patent No.: 7015954B1).

1. In regard to claims 1-10, the applicant asserts that the combination of Foote et al. (US 7015954) with Budrys (US Patent No.: 6618078) fails to teach or suggest a mounting surface that includes two image sensors and a processor as recited in claim 1. As mentioned above, the examiner agrees with this assertion. However, upon further consideration, a new ground(s) of rejection is made in view of Foote et al. (US Patent No.: 7015954B1) and further in view of Schofield et al. (US Patent No.: 6097023) with regard to Claims 1-2 and 4-10.

2. Regarding claims 23-31 and 32-33, the applicant asserts that the combination of Foote et al. (US 7015954) with Budrys (US Patent No.: 6618078) fails to teach or suggest an integrated circuit that includes the processing engine and one of a plurality of digital image sensors as recited in independent claims 23 and 32. The examiner

agrees with this assertion. However, upon further consideration, a new ground(s) of rejection is made in view of Tian et al. (US Patent No.: 6806514B1) and further in view of Foote et al. (US Patent No.: 7015954B1).

3. Regarding claims 11-12 and 14-21, the applicant asserts that the combination of Foote et al. (US 7015954) with Li et al. (US Patent No.: 7015954B1) fails to teach or suggest an integrated circuit including a first image module, a second image module, and a processing engine, as recited in independent claim 11. The examiner agrees with this assertion. However, upon further consideration, a new ground(s) of rejection is made in view of Tian et al. (US Patent No.: 6806514B1) and further in view of Foote et al. (US Patent No.: 7015954B1).

4. For the reasons indicated above, Claims 1-12, 14-21 and 23-33 are rejected. An explanation of the rejections are indicated in the following office action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 11 is rejected under 35 U.S.C. 102(e) as being anticipated by Tian et al. (US Patent No.: 6806514B1).

*With regard to **Claim 11**, Tian et al. disclose an image capturing system comprising:*

*an integrated circuit (Substrate 500 in **Figure 5**) comprising:*

*a first image module communicatively coupled to a processing engine the first image module operable to capture first image information (DPS array 302 is coupled to processor 310, **Figure 5**);*

*a second image module communicatively coupled to the processing engine, the second image module operable to capture second image information (The second DPS array 302 is also coupled to processor 310, **Figure 5**); and*

*the processing engine operable to perform an image processing function on information received from the first image module and the second image module (The processing engine (control processor 310) performs image processing on information received from the two DPS Arrays 302 in **Figure 5**).*

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2 and 4-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Foote et al. (US Patent No.: 7015954B1) and further in view of Schofield et al. (US Patent No.: 6097023)

In regard to ***Claim 1****, Foote et al. disclose an image capture system (The invention has a system of cameras for image and video capturing,* ***Column 2, Lines 40-42)*** *comprising:*

a processing engine operable to perform an image processing function (The reference has a combining device which combines/warps (processes) images, ***Column 18, Lines 10-18)****;*

a first image sensor operable to capture a first view of a scene and to output first information representing the first view (The reference teaches of a first image sensor, capturing a view (210) of a scene to be output to a display such as (286) in Figure 2B or 1560 in Figure 15, ***See Figures 2A and 2B, Figure 15 and Column 6, Lines 19-30 and Lines 55-65)****;*

a second image sensor operable to capture a second view of the scene and to output second information representing the second view (The reference teaches of a second image sensor capturing a view (220). The captured view of the scene can be output to a display such as (286) in Figure 2B or 1560 in Figure 15, ***See Figures 2A and 2B, Figure 15 and Column 6, Lines 19-30 and Lines 55-65)****;*

a selector operable to selectively route at least a portion of scene view information to the processing engine, the scene view information comprising the first

information and the second information (The scene view information comprises the first information and the second information because the images are combined into a single panoramic image, ***Column 6, Lines 19-30 and Figure 2A****. A combining device 1530 (processing engine) can be used to warp these images together,* ***Column 18, Lines 9-17.*** *There is a selector present in the invention that allows any desired sub-image to be selected. The portion of the scene of view that is not of interest can be discarded (not selected),* ***Column 6, Lines 26-33)****; and*

*Foote et al. teach of a mounting surface on which the first and the second image sensors are secured (****Figure 2B*** *shows the mounting surface (260) on which the first and second image sensors are secured****)****. However, Foote et al. do not teach or explicitly disclose that the processing engine is mounted on the same surface as the first and second image sensors. Schofield et al. disclose two imaging devices (Array 1 and 2, 38b) that are mounted on the same surface as a processing engine (DSP 13b) in* ***Figure 6 of Schofield et al.*** *It would have been obvious to one of ordinary skill in the art at the time of the invention to mount the processing engine on the same mounting surface as the two image sensors taught by Foote et al., because this would make the invention more compact and save space.*

In regard to ***Claim 2****, Foote et al. and Schofield et al. disclose the system of claim 1, further comprising a support having an exterior surface that comprises the mounting surface, the support having a geometry selected from the group consisting of a generally planar geometry, a generally cylindrical geometry, and a generally spherical geometry (****Figure 1A of Foote et al.*** *show the cameras are mounted on an exterior*

surface comprising the mounting surface where the geometry of the support is generally planar, cylindrical and spherical).

Regarding ***Claim 4****, Foote et al. and Schofield et al. disclose the system of claim 1, wherein the first and second image sensors are operable as digital video sensors (The reference teaches that the CMOS image sensors are video cameras,* ***Column 4, Line 35 and Column 5, Line 50 of Foote et al.)****, further wherein the first and second image sensors are adjustably secured to the mounting surface (The cameras (image sensors) are moveable (adjustable) with respect to each other,* ***Column 7, Line 22 of Foote et al.*** *They are also adjustably secured to a mounting surface as shown in* ***Figure 2B of Foote et al.)****.*

In regard to ***Claim 5****, Foote et al. and Schofield et al. disclose the system of claim 1, further comprising a triggering engine operable to signal the selector to route the scene information to the processing engine (A motion sensor functions as a triggering engine that detects motion in a particular area and moves (selects) the appropriate camera to capture information from that location,* ***Column 12, Lines 1 et seq. of Foote et al.*** *This information is then input to the combining device (processing engine),* ***Column 18, Lines 15-18 of Foote et al.)****.*

With regard to ***Claim 6****, Foote et al. and Schofield et al. disclose the system of claim 1, further comprising a microphone assembly communicatively coupled to the processing engine to provide audio output (The cameras can be controlled using a microphone/audio assembly. Images can be tracked according to their audio output and combined in the processing engine,* ***Column 15, Lines 1 et seq. and Column 16,***

Lines 1-26 of Foote et al. *Although not specifically mentioned, official notice is taken saying it would have been obvious to one of ordinary skill in the art at the time of the invention to provide audio output to go along with the display of images in a teleconference because this is a means of communicating a message).*

(Regarding Claim 6, Official Notice was taken in the most recent Office Action (04/20/2007) regarding the provision of audio output to go along with the display of images in a teleconference. The Examiner's conclusion of common knowledge in the art is now taken to be admitted prior art because Applicant has failed to traverse the Examiner's assertion of Official Notice in reply to the Office Action in which the common knowledge statement was made. Please see MPEP 2144.03. Additionally, the provision of audio output to go along with the display of images in a teleconference is now taken to be admitted prior art because Applicant failed to traverse the Examiner's assertion of Official Notice in reply to the Office Action in which the common knowledge statement was made**).**

Regarding ***Claim 7****, Foote et al. and Schofield et al. disclose the system of claim 1, wherein the first image sensor has an orientation and the second image sensor has a different orientation, further wherein the first and second image sensors are operable as digital video sensors, the system further comprising:*

a triggering engine communicatively coupled to the selector and operable to signal the selector to route a specific portion of the scene view information to the

processing engine (A motion sensor functions as a triggering engine that detects motion in a particular area and moves (selects) the appropriate camera to capture information from that location, ***Column 12, Lines 1 et seq. of Foote et al.*** *This information is then input to the combining device (processing engine),* ***Column 18, Lines 15-18 of Foote et al.)****; and*

a directional determination assembly (camera array motion sensor) operable to detect a direction of activity in the scene, the assembly further operable to output a signal that informs the triggering engine of the direction (The camera array motion sensor detects the motion (activity) in a particular region (determined direction). Upon detecting a motion in a particular region, a signal (information) is sent to point another camera in the appropriate direction, ***Column 12, Lines 22-32 of Foote et al.)****.*

In regard to ***Claim 12****, Foote et al. and Schofield et al. disclose the system of claim 7, wherein the triggering engine is further operable to signal the selector to route the second information to the processing engine in response to a determination that the second view should capture the activity (The camera array motion sensor detects the motion (activity) in a particular region (determined direction). Upon detecting a motion in a particular region, a signal (information) is sent to point a second camera in the appropriate direction,* ***Column 12, Lines 22-32 of Foote et al.*** *Images from the camera array are processed in the combining device,* ***Column 18, Lines 14-15 of Foote et al.*** *If it is determined that only the second view should capture the activity, the other views can be discarded,* ***Column 6, Lines 27-29 of Foote et al.*** *The view selection device*

may select only part of the combined image (second image part) for display, ***Column 18, Lines 20-21 of Foote et al.)****.*

With regard to ***Claim 9****, Foote et al. and Schofield et al. disclose the system of claim 8, further comprising:*

a support having an exterior surface that comprises the mounting surface, the support having a geometry that facilitates differing orientations of the first and the second image sensors (The first and second image sensors are still mounted on a planar surface as shown in Figure 4C and Figure 1B. The first and second image sensors have different orientations because their field of view can be placed at right angles to each other or at different room corners, ***Column 12, Lines 30-33 of Foote et al.)****; and*

an interface operable to communicatively couple an output of the processing engine to an external computing system (A view selection device (operable interface) is used to select the output of the processing engine (combining device) and sends it to an external computing system such as the view selection device (1560), ***Column 18, Lines 9-26 of Foote et al.)****.*

Regarding ***Claim 10****, Foote et al. and Schofield et al. disclose the system of claim 9, wherein the activity comprises sound generation and wherein the system further comprises a computer coupled to the interface (The view selection device may automatically select a view based on audio (sound) activity,* ***Column 18, Lines 24-25 of Foote et al****. Also, the view selection device 1560 may make its selections based on the user input via an input mechanism 1575. The view selection device and the input*

mechanism can be implemented as a computer, ***Column 18, Lines 21-31*** *and* ***Figure 15 of Foote et al.)****.*

Claims 1,3 and 23-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tian et al. (US Patent No.: 6806514B1) and further in view of Foote et al. (US Patent No.: 7015954B1)

In regard to ***Claim 1****, Tian et al. discloses an image capture system comprising:*

a processing engine operable to perform an image processing function (310 in ***Figure 5)****;*

a first image sensor operable to capture a first view of a scene and to output first information representing the first view (DPS array 302 in ***Figure 5)****;*

a second image sensor operable to capture a second view of the scene and to output second information representing the second view (DPS array 302 in ***Figure 5)****;*

a selector operable to selectively route at least a portion of scene view; and

a mounting surface (substrate 500) on which the processing engine (310) and the first and second image sensors (DPS arrays 302) are secured (See ***Figure 5 and Column 5, Lines 45-50 of Tian et al.)****.*

However, Tian et al. do not explicitly teach or disclose a selector operable to selectively route at least a portion of scene view information to the processing engine, the scene view information comprising the first information and the second information. Foote et al. teach of two image sensors that can be used to capture two different views

of a scene, ***Figures 2A and 2B, Figure 15 and Column 6, Lines 19-30 and Lines 55-65 of Foote et al.*** *The scene view information includes the first and second information because the images are combined into a single panoramic image,* ***Column 6, Lines 19-30 and Figure 2A of Foote et al.****. A combining device 1530 combines the images together,* ***Column 18, Lines 9-17 of Foote et al.,*** *and a portion of a scene that is not of interest can be chosen or selected to be discarded,* ***Column 6, Lines 26-33 of Foote et al.*** *It would have been obvious to one of ordinary skill in the art at the time of the invention to have a selector that selectively chose the first and second information from the first and second sensors respectively, because this would give the user the control of selecting a particular and desired sub-image.*

Regarding ***Claim 3****, Tian et al. and Foote et al. disclose the system of claim 1, further comprising:*

a third image sensor (302) operable to capture a third view of the scene (Tian et al. disclose that more than two image sensors can be operable to capture a third view of the scene, ***Figure 4 and Column 5, Lines 17-50 of Tian et al.)****; and*

an integrated circuit (substrate 400 in ***Figure 4 of Tian et al.)*** *comprising the first image sensor, the second image sensor, the third image sensor, and the processing engine (See* ***Figure 4 of Tian et al.)****.*

Regarding ***Claim 23****, Tian et al. disclose an image capturing method comprising:*

correlating a plurality of digital image sensors with different views of a scene, wherein an integrated circuit (substrate 500) comprises a processing engine (310) and at least one of the plurality of digital image sensors (302), ***(Figure 5)****;*

receiving information that represents a first view of the scene (One of the DPS Arrays acquires information that represents a first view of a scene, ***Figure 5)****;*

receiving information that represents a second view of the scene (The other DPS array 302 receives information that represents a second view of the scene, ***Figure 5)****;*

determining that the first view of the scene comprises a desired portion of the scene; and

allowing the information to progress to the processing engine (Information acquired is processed by the processor 310, ***Figure 5)****.*

Although Tian et al. disclose an image capturing method with the structure of two digital image sensors and a processing engine mounted on an integrated circuit, Tian et al. do not teach or explicitly disclose that information representing the second view of a scene is additional information that is of a different view from the first view. Foote et al. disclose a first image sensor, capturing a view (210) of a scene to be output to a display 286 in Figure 2B or 1560 in Figure 15 of Foote et al.. A second image sensor captures an additional view 220. The captured view of the scene can be output to a display 286 in Figure 2B or 1560 in Figure 15 of Foote et al., ***Figures 2A-2B, Figure 15, Column 6, Lines 19-30 and Lines 55-65 of Foote et al.*** *Abutting areas of different views of a scene from the multiple image sensors are combined (correlated) together to form a*

panoramic image, ***Column 6, Lines 19-26 of Foote et al.*** *It would have been obvious and well known to one of ordinary skill in the art at the time of the invention to incorporate the second image sensor that captured an additional view of a scene and then combine the first and second views together to form a final image in with the structure disclosed by Tian et al., because combining images together that are of a different view is a well known way of generating an image that provides the user with a wide field of view of an observed scene.*

Tian et al. also fails to teach of that the first view of the scene comprises a desired portion of the scene. Foote et al. teach that any desired sub-image (desired portion of a scene) can be selected (determined), ***Column 6, Lines 31-32 of Foote et al.*** *Foote et al. also teach of a combining device that combines (processes) images. Images from the camera array are combined in the combining device 1540,* ***Column 18, Lines 14-16 of Foote et al.*** *It would have been obvious to one of ordinary skill in the art at the time of the invention to have a selector that selectively chose the first and second information from the first and second sensors respectively, because this would give the user the control of selecting a particular and desired sub-image.*

The examiner would like to point out, if already not evident, that Tian et al. is used to teach the structure of the image capturing system. Tian et al. is silent in the teachings of the method of claim 23. Foote et al. disclose the method of claim 23 as discussed above. It would have been obvious and well known to one of ordinary skill in the art at the time of the invention to incorporate the method disclosed by Foote et al. into the structural teachings of Tian et al. for the reasons indicated above.

Regarding ***Claim 24****, Tian et al. and Foote et al. disclose the method of claim 23, further comprising disallowing progression of the additional information to the processing engine (If an area of interest is not shown in an image, it can be discarded,* ***Column 6, Lines 27-29 of Foote et al.)****. It would have been obvious to one of ordinary skill in the art at the time of the invention to disallow the progression of information to the processing information, because it is in the interest of the user to choose which image to keep and which to discard to save processing time.*

With regard to ***Claim 25****, Tian et al. and Foote et al. disclose the method of claim 23, further comprising performing an image signal processing function on the information (The reference has a combining device which combines/warps (processes) the image signals,* ***Column 18, Lines 10-18 of Foote et al.)****.*

Regarding ***Claim 26****, Tian et al. and Foote et al. disclose the method of claim 23, further comprising:*

performing an image signal processing function on the infomation (The reference has a combining device which combines/warps (processes) the image signals, ***Column 18, Lines 10-18 of Foote et al.)****; and*

initiating presentation of the information on a display after performing the image signal processing function (After going through the combining device 1540, the information that is combined is displayed on an output mechanism 1570, ***Column 18, Lines 15-21 and Figure 15 of Foote et al.)****.*

It would have been obvious to one of ordinary skill in the art at the time of the invention to display the information after performing the image signal processing function so that the user can view the captured image.

In regard to ***Claim 27****, Tian et al. and Foote et al. disclose the method of claim 23, further comprising:*

determining that the second view of the scene comprises another desired portion of the scene (If the second view of an image is a desired one, it can be selected, ***Column 6, Lines 31-32 of Foote et al.*** *As taught in the above claims, the determination that the second view of the scene comprises a desired portion of the scene is determined by the user or during motion analysis. During motion analysis, the camera array motion sensor detects the motion (activity) in a particular region (desired region). Upon detecting a motion in a particular (desired) region, a signal (information) is sent to point a second camera in the appropriate direction,* ***Column 12, Lines 22-32 of Foote et al.)****; and*

allowing the additional information to progress to the processing engine (Images from the camera array are processed in the combining device, ***Column 18, Lines 14-15 of Foote et al.)****.*

With regard to ***Claim 28****, Tian et al. and Foote et al. disclose the method of claim 23, further comprising:*

correlating the first view to a first image sensor of the plurality of image sensors and the second view to a second image sensor of the plurality of image sensors

(Looking at Figure 2A of Foote et al. it is evident that Camera 1 and Camera 2 capture two different fields of view of the object 200) ; *and*

receiving a directional identification signal indicating that the first view contains a desired scene activity (The camera array motion sensor detects the motion (activity) in a particular region (determined direction). Upon detecting a motion in a particular region, a signal (information) is sent to point another camera in the appropriate direction, ***Column 12, Lines 22-32 of Foote et al.*** *However, if the motion is in the region of the first view (desired view), the camera in the first view will be selected to capture the scene's activity).*

Regarding ***Claim 29****, Tian et al. and Foote et al. disclose the method of claim 23, further comprising:*

performing an image signal processing function on the information (The reference has a combining device which combines/warps (processes) the image signals, ***Column 18, Lines 10-18 of Foote et al.)****; and outputting post processed image signal information (After going through the combining device 1540, the information that is combined is displayed on an output mechanism 1570,* ***Column 18, Lines 15-21 and Figure 15 of Foote et al.)****.*

With regard to ***Claim 30****, Tian et al. and Foote et al. disclose the method of claim 28, further comprising initiating communication of the post processed image signal information as data packets across a network (After the images are combined (processed) in the combining device 1540, the data is broadcast to the display 1570,*

See Figure 15 and Column 18, Lines 9 et seq. of Foote et al.)*. It would have been obvious and well known to one of ordinary skill in the art at the time of the invention to send the processed image signals as data packets across a network, because this is a fast and convenient way of sharing images with other users.*

Regarding ***Claim 31****, Tian et al. and Foote et al. disclose the method of claim 29 further comprising streaming the post processed image signal information (The reference teaches of streaming the video information since the images being shown on the display are not still images, they are streaming video images done in real time,* ***Column 16, Lines 45-55 of Foote et al.)****.*

Regarding ***Claim 32****, Tian et al. disclose an image capturing method comprising:*

receiving image data from a plurality of image sensors (Figure 5), wherein an integrated circuit (substrate 500) comprises a processing engine and at least one of the plurality of image sensors (Figure 5);

providing image data related to one or more of the plurality of image sensors to the processing engine (Image data captured by the DPS sensors is sent to the processing engine 310, ***Figure 5)****;*

However, Tian et al. do not disclose selectively providing image data related to one or more of the plurality of image sensors to the processing engine and processing the image data to produce an output. Also, Tian et al. do not teach or explicitly disclose transmitting the output to a video conferencing device. Foote et al. teach of receiving

image data from a plurality of image sensors (Image data is received from the array of cameras (plurality of image sensors) 1510 in ***Figure 15*** *of* ***Foote et al.)****, and selectively providing image data related to one or more of the plurality of image sensors to the processing engine (The image data from 1510 is provided to the processing engine 1530 which combines the images,* ***Figure 15 and Column 18, Lines 9 et seq. of Foote et al.)****. Foote et al. then disclose processing the image data to produce an output (The image data is combined (processed) in 1530 and sent to the output 1570,* ***Figure 15 and Column 18, Lines 9 et seq. of Foote et al.)****. Finally, Foote et al. disclose transmitting the output to a video conferencing device (The output 1570 can be used as a video conferencing (teleconferencing) device,* ***Figure 155 and Column 1, Lines 33-45 of Foote et al.)****. It would have been obvious to one of ordinary skill in the art at the time of the invention to selectively choose the first and second information from the first and second sensors respectively to send to the processing engine, because this would give the user the control of selecting a particular and desired image, as opposed to unwanted images, to send to the processor for processing hence saving processing time. It would also have been obvious to one of ordinary skill in the art at the time of the invention to output the processed data to a video conferencing device since this is a well known way of sharing images to a particular audience of choice.*

Regarding ***Claim 33****, Tian et al. and Foote et al. disclose the method of claim 32, further comprising:*

receiving an audio signal via a directional microphone (The cameras can be controlled using a microphone/audio assembly, ***Column 15, Lines 1 et seq. of Foote et al.)****; and*

selectively providing image data associated with a particular image sensor of the plurality of image sensors to the processing engine based on a direction associated with the audio signal (The cameras can be controlled using a microphone/audio assembly. Images can be tracked according to their audio output and combined in the processing engine, ***Column 15, Lines 1 et seq. and Column 16, Lines 1-26 of Foote et al.)****.*

It would have been obvious to one of ordinary skill in the art at the time of the invention to have an imaging system receive an audio signal via a microphone and selectively provide image data associated with an image sensor to the processing engine based on a direction associated with the audio signal, because tracking an object by detection of an audio signal is a well known method of steering a camera to capture an image, ***Column 4, Lines 4-16 of Foote et al.***

Claims 12 and 14-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tian et al. (US Patent No.: 6806514B1) as applied to claim 11 above and further in view of Foote et al. (US Patent No.: 7015954B1)

In regard to ***Claim 12****, Tian et al. disclose they system of claim 11, further comprising:*

a third image module communicatively coupled to the processing engine (Tian et al. disclose that more than two image sensors can be operable to capture a third view of the scene, ***Figure 4 and Column 5, Lines 17-50 of Tian et al.)****.*

However, Tian et al. do not teach or disclose an interface operable to facilitate communication of a processing engine output to a computing device. Foote et al. disclose that images combined in the combining device 1540 is displayed on an output mechanism 1570, ***Column 18, Lines 15-21 and Figure 15 of Foote et al.*** *It would have been obvious to one of ordinary skill in the art at the time of the invention to have the processing engine disclosed in Tian et al. communicate the output to a computing device, because this is a well known way to conveniently transmit and transfer image data.*

Regarding ***Claim 14****, Tian et al. do not teach or disclose the system of claim 11, further comprising a selection mechanism operable to switch the information received by the processing engine from the first image information to the second image information.*

Foote et al. teach of an image capturing system comprising: a first image module communicatively coupled to a processing engine, the first image module operable to capture first image information (The reference teaches of a first image module capturing a view (210) of a scene (information) to be output to a display such as (286) in Figure 2B or display 1560 in Figure 15, ***See Figures 2A and 2B, Figure 15*** *and* ***Column 6, Lines 19-30 and Lines 55-65 of Foote et al.*** *The first image module is communicatively coupled with the processing engine (combining device 1540) because*

the combining device warps the piece of information from the first image module with other image information, ***Column 18, Lines 10-17 of Foote et al.)****;*

a second image module communicatively coupled to the processing engine, the second image module operable to capture second image information (The reference teaches of a second image sensor capturing a view (220). The captured view of the scene can be output to a display such as (286) in Figure 2B or 1560 in Figure 15, ***See Figures 2A and 2B, Figure 15 and Column 6, Lines 19-30 and Lines 55-65 of Foote et al.*** *The second image module is communicatively coupled with the processing engine (combining device 1540) because the combining device warps the piece of information from the second image module with other image information,* ***Column 18, Lines 10-17 of Foote et al.)****; and the processing engine operable to perform an image processing function on information received from the first image module and the second image module (The combining device (processing engine) combines/warps (processes) images from the first and second image modules,* ***Column 18, Lines 10-18 of Foote et al.)****. Foote et al. also teach of a selection mechanism operable to switch the information received by the processing engine from the first image information to the second image information (The view selection device can select a image view based on video motion analysis. Based on the analysis, the selection devise can switch from the first image information to be displayed to the second,* ***Column 18, Lines 9-26 of Foote et al.).*** *It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Foote et al. in with the structure of the image capturing system disclosed by Tian et al. and to selectively choose the first and second*

information from the first and second sensors respectively to send to the processing engine, because this would give the user the control of selecting a particular and desired image, as opposed to unwanted images, to send to the processor for processing hence saving processing time.

Regarding ***Claim 15****, Tian et al. do not teach or disclose the system of claim 11, wherein the processing engine is operable to simultaneously perform an image processing function on information received from the first image module and the second image module. However, official notice is taken saying it would have been obvious and well known to one of ordinary skill in the art at the time of the invention to perform simultaneous processing on the first and second images from the first and second image modules, because this is an accurate and well known method of generating one image from multiple images sensors.*

With regard to ***Claim 16****, Tian et al. disclose the system of claim 11, wherein the firs image module (DSP array 302) has a field of view and the second module (second DSP array 302) has a second field of view (Figure 5). However, Tian et al. do not teach or explicitly disclose that the second module's field of view is different from the first module's field of view. Foote et al. disclose a first image sensor, capturing a view (210) of a scene to be output to a display 286 in Figure 2B or 1560 in Figure 15 of Foote et al.. A second image sensor captures an additional view 220. The captured view of the scene can be output to a display 286 in Figure 2B or 1560 in Figure 15 of Foote et al.,* ***Figures 2A-2B, Figure 15, Column 6, Lines 19-30 and Lines 55-65 of Foote et al.*** *Abutting areas of different views of a scene from the multiple image sensors are*

combined (correlated) together to form a panoramic image, ***Column 6, Lines 19-26 of Foote et al.*** *It would have been obvious and well known to one of ordinary skill in the art at the time of the invention to incorporate the second image sensor that captured an additional view of a scene and then combine the first and second views together to form a final image in with the structure disclosed by Tian et al., because combining images together that are of a different view is a well known way of generating an image that provides the user with a wide field of view of an observed scene.*

In regard to ***Claim 17****, Tian et al. disclose the system of claim 11, wherein the first image module has a resolution and the second image module has a resolution* ***(****It is inherent that there is a resolution present in each DSP Array 302 in* ***Figure 5)****. However, Tian et al. does not disclose that the second module has a different resolution than the first module. Foote et al. disclose a first image sensor, capturing a view (210) of a scene to be output to a display 286 in Figure 2B or 1560 in Figure 15 of Foote et al.. A second image sensor captures an additional view 220. The captured view of the scene can be output to a display 286 in Figure 2B or 1560 in Figure 15 of Foote et al.,* ***Figures 2A-2B, Figure 15, Column 6, Lines 19-30 and Lines 55-65 of Foote et al.*** *Abutting areas of different views of a scene from the multiple image sensors are combined (correlated) together to form a panoramic image,* ***Column 6, Lines 19-26 of Foote et al.*** *It would have been obvious and well known to one of ordinary skill in the art at the time of the invention to incorporate the second image sensor that captured an additional view of a scene and then combine the first and second views together to form a final image in with the structure disclosed by Tian et al., because combining images together that are*

of a different view is a well known way of generating an image that provides the user with a wide field of view of an observed scene. As a result, Foote et al. also disclose that the first image module has a resolution and the second module has a different resolution (Ch1 and Ch2 represent two different cameras in Figure 10. Before merging the images from Ch1 and Ch2, it is taught that the regions from Ch1 corresponding to the regions in Ch2 differ in resolution (the regions are darker in Ch1), ***Column 11, Lines 41-47 of Foote et al.)****. It would have been obvious to one of ordinary skill in the art at the time of the invention to have one sensor have a different resolution than the other image sensor because each sensor might be capturing a different scene of view.*

With regard to ***Claim 18****, Tian et al. do not disclose the system of claim 11, wherein the first image module comprises a digital zoom lens. Foote et al.'s invention is related to digital zooming of a scene by an array of camera,* ***Column 1, Lines 26-30 of Foote et al.*** *It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate digital zooming taught by Foote et al. into the imaging system structure disclosed by Tian et al., because digital zooming increases the size of the image to be captured hence yielding a larger image that is easier to view.*

In regard to ***Claim 19****, Tian et al. do not disclose the system of claim 11, wherein the first image module comprises an optical zoom lens with autofocus. Official notice is taken by the examiner stating that it would have been obvious and well known at the time of the invention to have a lens that performed optical zoom with auto-focus. Having*

an optical zoom would have been better and more powerful than having a digital zoom and having the lens perform an auto-focus function would have saved the user the time and effort of manually focusing in on a scene to be imaged.

(Regarding Claim 19, Official Notice was taken in the most recent Office Action (04/20/2007) regarding having an image module comprise an optical zoom lens with autofocus. The Examiner's conclusion of common knowledge in the art is now taken to be admitted prior art because Applicant has failed to traverse the Examiner's assertion of Official Notice in reply to the Office Action in which the common knowledge statement was made. Please see MPEP 2144.03. Additionally, having an image module comprise an optical zoom lens with autofocus.is now taken to be admitted prior art because Applicant failed to traverse the Examiner's assertion of Official Notice in reply to the Office Action in which the common knowledge statement was made**).**

*Regarding **Claim 20**, Tian et al. do not disclose the system of claim 11, wherein the first image module comprises a fixed-focus and fixed-zoom lens. Foote et al. disclose an image module that comprises a zoom lens that performs focusing, **Column 1, Lines 26-30 of Foote et al**. The array of cameras can be fixed. Therefore, the focus and zoom of the first image module can also be fixed, **Column 6, Lines 31-43 of Foote et al.**. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a focus and zoom lens as disclosed by Foote et al. into the*

image system structure taught by Tian et al., because focusing and zooming in on an image area to be captured gives the user a more clear and visible view of the image being captured.

With regard to ***Claim 21****, Tian et al. disclose the system of claim 11, wherein the first image information represents a first view of a scene and the second image information represents a second view of the scene (Figure 5 of Tian et al.). However, Tian et al. do not teach or disclose that at least a portion of the first information represents a portion of the scene captured in the second view. Foote et al. disclose a system wherein the first image information represents a first view of a scene and the second image information represents a second view of the scene (Looking at Figure 2A of Foote et al., Camera 1 has a different view (210) than Camera 2 (220). They each represent a different view of the participant 200), and wherein at least a portion of the first information represents a portion of the scene captured in the second view (Looking at Figure 2A of Foote et al., Camera 1 represents a portion of participant 200 and Camera 2 represents a portion of the same participant 200). It would have been obvious to one of ordinary skill in the art at the time of the invention to have a portion of the first information represent a portion of the scene captured in the second view, because this is a well known way of capturing images and merging the images to form a final image with a wide angle field of view.*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pritham Prabhakher whose telephone number is 571-270-1128. The examiner can normally be reached on M-F (7:30-5:00) Alt Friday's Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571)272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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